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NOVEMBER
1949

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

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AMATEUR RADIO

Published by the Wireless Institute of Australia,
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Melbourne, C.1

EDITORIAL

It cannot be denied that the possession of a completely Amateur Radio journal is of prime importance to the Australian Amateur, and in this regard the Wireless Institute of Australia has done well to maintain a magazine of its own, which has worthily served its members for many years.

Nevertheless, if the magazine is to be a financial success, it will be recognised that its production can only be maintained with the support of Advertisers.

That "Amateur Radio" has a real advertising value, has been proved beyond doubt by the loyal support received from Business Houses who have consistently advertised in it for many years.

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purchase their goods wherever possible, and give them reciprocal support in preference to other sources of supply.

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Your attention to the suggestions outlined above will greatly assist and encourage the Magazine Committee in the production of a really worthwhile magazine, to which they are already devoting tireless effort.

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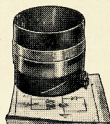
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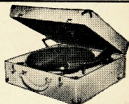
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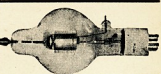
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Central 4311

A Wide-Range Signal Generator

BY A. K. HEAD,* VK3AKZ

This Signal Generator was built to provide a wide-range of radio and audio frequencies at the minimum of cost and labour. It is nothing wonderful from the point of view of accuracy of calibration, minimum leakage signal, or constancy of output, but is good enough for lining up receivers and general testing purposes.

AUDIO OSCILLATOR

The audio circuit is a straight copy of one described in "Wireless World." Its good points are: (i) No coils to be wound, the frequency being varied by a carbon potentiometer which covers a large range of frequencies (about 20 to 1).

(ii) Range switching is by simply switching three condensers. Two ranges were used, from 40 cycles to 800, and from 800 to 16,000 cycles.

(iii) Very constant output at all frequencies. The output was checked with an oscilloscope and was constant up to about 10,000 cycles, above which the amplifiers of oscilloscope were not flat.

(iv) Only one valve used. Admittedly it is a double triode, but since space was limited in the cabinet, this was a real point.

In the original circuit, a 6SN7 was used. A 6F8 (which is electrically identical with a 6SN7) was on hand here, so it was used. It has the small advantage of having one of the grids brought to a top cap. This was used as an input grid to minimise hum pick-up. If a 6SN7 is used, the grid which is furthest away from the heater pins should be used as the input grid.

The 2,500 ohm variable in the plate of the second triode controls the overall gain. For the best wave form, this should be adjusted to the smallest resistance which still gives oscillation over the whole frequency range. When this is done, the wave form appears a very good sine wave.

Due to the large time constants of the grid leak bias circuits, oscillations take about 16 seconds to build up when first switched on. A point to be noted is that the 0.5 μ F. condenser earthing the grid of the second triode should have low leakage, otherwise the cathode resistor voltage drop will be applied to the grids as unwanted extra bias.

A good quality potentiometer should be used for the 1 megohm frequency control resistance. One with a logarithmic tap was used and a reasonable frequency scale is obtained if it is wired so that clockwise rotation increases the resistance in the grid (i.e. decreases the frequency).

The three position range change switch has the middle position blank for psychological reasons. It enables the two ranges to be swept in the same direction, the blank position enabling the frequency potentiometer to be re-

turned to the other end of the scale without audible sound. If this doesn't seem a useful point, then a two position switch would do the job.

The output is about half a volt, and is taken via the half megohm volume control used to grid modulate the r.f. oscillator.

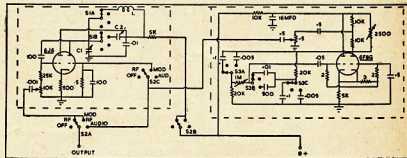
R.F. OSCILLATOR

Like the audio oscillator, this uses a twin triode as a cathode coupled oscillator. The tube used is a 6J6, but the circuit would be suitable for other twin triodes. The 6J6 was used with the idea of extending the ranges to as high a frequency as possible, and also because of its small size.

Points about the circuit are: (i) The tuned circuit consists of the inductance L, band spread condenser C2, and tuning condenser C1 (in series with the 0.01 μ F. by-pass condenser). A nice point is that the coil L does not have a feed back winding or a tapping, and so for the low frequency ranges it is possible to use any inductance which may be

(iii) Modulation is applied to the grid of the second triode. The voltage output of the audio oscillator appears to be quite enough for decent modulation although the depth thereof has not been measured. The values of the components in this grid circuit are essentially a compromise, since the grid should be earthed for r.f. but not for the audio modulation.

(iv) The upper frequency limit of this circuit, although I have not actually measured it, is quite high as it will oscillate when L consists of the shortest piece of wire running to the band switch. A point to watch is the 500 ohm cathode resistor. It is the voltage across this which couples the two triodes together. It is by-passed by the stray capacities from cathode to earth (and since the filament is earthed, this capacity may be quite appreciable, say about 10 pF.). This by-passing becomes more serious the higher the frequency and may determine the limiting frequency at which it will oscillate. The limit can be push-



on hand, such as r.f. chokes or i.f. transformer windings. Since only one end of L is "hot," only one bank of the wave change switch S1 is needed for changing coils.

For the tuning condenser C1, a miniature broadcast condenser is used. This gives 3 to 1 frequency coverage. The second section of S1 can be used to switch in a parallel condenser C2, which reduces the frequency range. This is used in two cases. By switching a 500 pF. condenser across the coil which covers the broadcast band, another range is obtained from about 400 Kc. to 500 Kc. This makes nice bandspread for lining up i.f.s and saves a coil. Again by switching in a small capacity, the coverage can be reduced to 2 to 1 which is used to cover from one Amateur Band to the next. No details need be given as to the actual coils and band-spread condensers used, since everyone has their own views as to what frequencies should be covered and how much band-spread is needed.

(ii) The output is taken from the 10,000 ohm carbon potentiometer. The 25,000 ohm resistor in series with it cuts down the output, but it minimises variation of the oscillator frequency with movement of the potentiometer. The pot. is quite a good attenuator below 7 Mc., but performs rather indifferently above.

ed up by a small r.f. choke in series with the cathode resistor and which will resonate (broadly) with the cathode to earth capacity at this limiting frequency. A way to kill two birds with the one stone is to use a wire wound cathode resistor. When this was done the upper limit was due to the long leads and high minimum capacity of the plate circuit. The present frequency coverage is from 200 Kc. to 30 Mc. and it is intended to extend this both upwards and downwards.

If possible a band switch with shorting plates to short out unused coils should be used. Since this was not available a third bank on the band switch is used to short out any unused coil which happens to resonate with its stray capacities (usually at a frequency in the next highest band). Such resonances of unused coils become apparent on calibrating the oscillator, appearing as distortions of the regularity of calibrations.

POWER SUPPLY A small conventional power supply is in the cabinet (but not shown on the circuit diagram). The four position three bank function switch gives audio, modulated r.f., unmodulated r.f. and off.

The audio oscillator is left running all the time, B+ being applied to the r.f. oscillator when necessary.

* Assistant Technical Editor, 12 Peverill Street, Balwyn, E.8, Victoria.

A Crystal Controlled Converter for Six Metres

BY DR. LEO H. McMAHON,* VK2AC

To most, six metres is a band of frequencies allotted right down there somewhere, populated by a few diehards who sit around most of the year waiting for conditions to break when they can work the thrilling DX of other Eastern States, the super DX of ZL and last year for the first time that out-of-this-world-DX, VK6. However, like old pipes, Harris tweed and spinach, six metres has an attraction all of its own. The other night a remark was heard on the band that over the week-end between Sydney, the Mountains and the no-coal fields area, there were 34 stations on. QRM was certainly getting bad. Thirty-four stations in four megacycles—117.6 Kc. and a bit each. However, I will admit that all of the 34 stations were in about the first megacycle and a half.

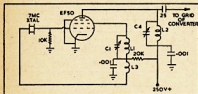
Six metres is funny in that respect. Of all the bands we have, it is peculiar in having but one end and no middle. Getting on six is not as hard as is thought. Transmitter construction is standard, beams are the order of the day and are easily constructed, and the receiver problem is easily beaten. Double conversion is a necessity for suf-

Readers will remember the first Article by Dr. Leo H. McMahon in the June, 1949, issue of "A.R."

Here are further details on this interesting method of reaching the high frequencies by a crystal controlled converter.

Selectivity necessitates the use of an i.f. about 455 Kc. or less. More than that is no go these days. Ease of use is an important factor. It is no use if you have to hold your breath while you tune somebody in and then are unable to change your position for fear of losing him.

Stability is a must. Have you tried to make a self excited oscillator above 40 Mc. that is stable and free from a.c. modulation? Have you tried to make one for the ten metre band? It can be done and has been done, but not by the average Amateur. The solution is in a crystal controlled high frequency oscillator, and the use of your ordinary station receiver as a tunable i.f. However getting crystal controlled output at 40 Mc. or above looks hard, but is not. Remember you are dealing with a receiver and need only enough voltage to get conversion—not power to drive a transmitter.



- L1 C1—Tune to 21.3 Mc. Use a small compression type or a Phillips 3-30 pF. trimmer.
L2 C4—Tune to 43 Mc.
L3—See text.

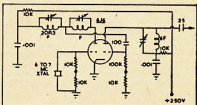
ficient selectivity plus some stability and sensitivity. Lots of "s's" aren't there? This being the case—the double conversion, not the "s's"—the solution lies in a converter ahead of the normal receiver.

The things to look for in a receiver are usable sensitivity, selectivity, ease of use and stability.

Sensitivity can be obtained in r.f., i.f., or audio stages. Usable sensitivity is a horse of a different colour. It really is the signal to noise ratio. This noise may be intrinsic or extraneous. The intrinsic noise sets the limit on the ratio in the laboratory and the extraneous noises set the limit in the shack.

Maybe you are one of the fortunate ones who live in a quiet area, but most of us don't. It is found in practice that in the average location, outside noises put a limit to the sensitivity you can use. For this reason, the r.f. stages are quite standard r.f. stages and converters have been dealt with at length in all sorts of publications, so any discussion on them would only be a variation or a theme.

* 32 Harbourn Rd., Kingsford, Sydney.



The grid resistors are broken to enable a meter to be clipped on easily for testing.

Two different types of oscillators have been used to get the high frequencies for conversion. In both, only one tube is used. The first uses the circuit described in "A.R." for June, in which a seven megacycle crystal oscillates at 21.3 Mc. A pentode tube is used in which the screen grid is used as the plate of the oscillator and a tuned circuit at 43 Mc. takes out the conversion frequency which is fed to the grid of the converter.

A minimum of parts is used. The value of resistors and by-pass condensers used have no special virtues except that I put them in and they worked.

L2 C4 tunes the output frequency which, in my case, is 43 Mc. (approx.). The reason this frequency is used is because seven megacycle crystals are on hand and it gives an i.f. range of 7 to 11 Mc. which is quite a good range

to tune. The choice of crystal frequency and so tuning i.f. range is left to your own taste.

The combination L1 C1 tunes to the third harmonic of the crystal, in my case about 21.3 Mc. Believe me there is no attempt to be super accurate or theoretical and this converter was made to go in purely Amateur fashion.

The secret of this oscillator is in L3. This has to be just large enough to make the crystal oscillate at its third harmonic but not so large as to make the circuit take off as an ultra-audio.

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It is correct when you get oscillation over only a small range of C1. A meter to read the grid current is very helpful. A receiver tuned to the frequency helps differentiate between the crystal oscillations and parasitics.

The tube used is an EF50 but there is no reason why other pentodes cannot be used. An 1852, a 954 or even a 6K7 should work.

Two difficulties were encountered. One crystal was sluggish, but a wash with soap and water cured that. If you wash your crystal, do so over a towel as crystals break when dropped on hard surfaces. The other difficulty was that with one crystal holder it was impossible to set L3 reliably enough. It could be done but was a bit ticklish, and that's one thing we won't stand for. This holder was a pre-war type and although it contained an average sized crystal, it had large plates. The capacity of these was too great—the substitution of a small crystal holder, the standard ones with the 1" spacing, got rid of this trouble.

Tuning up is done with a grid current meter, but can be done by listening to the noise or a signal. Both circuits are tuned for maximum noise and signal. Maximum grid current, in my case 150 micro-amps, occurs at this same point. You might say that if there was more injection voltage, there would have been greater sensitivity. The writer might too, but not usable sensitivity, because if the receiver is opened flat out the noise is more than you can stand.

With this oscillator it is possible to turn everything flat out. Previously this was impossible as before maximum was reached something would break into oscillation.

The r.f. and mixer stages are peaked with ordinary condensers. The output coil is loaded with a resistor to give reasonably flat output across the six metre band.

The second circuit, used by VK2ABB, uses a double triode and the best is the 6J6. One half of it is a standard crystal oscillator with the tank circuit tuned to the fundamental frequency of the crystal. In series with this is a circuit tuned to the second or third harmonic of the crystal. This frequency is fed to the second half of the 6J6 which is a tripler or a doubler. The plate circuit of the second half is tuned to six times the crystal frequency.

A BC348 is used as an i.f. and a crystal fundamental of 63 megs. His conversion frequency is 40 Mc. and his i.f. from 10 to 14 Mc. This allows him to use the calibrations on his receiver to have a calibrated dial for six metres.

The receiver in use here is what the Americans call a "clunk." The writer had no need to be so fussy. Both converters work equally well and there is nothing to be gained in the final results in using one circuit in preference to the other.

Two snags rear their head. One is stray pick-up of signals of intermediate frequency. Shielding will rid you of this but don't use 7-7.2 Mc. as a tuning

range. The second is spurious signals caused by harmonics of the low frequency oscillator. The frequency of the spurious signals is given by the formula:

$$YX - 43,000 \text{ Kc.} = X - 455 \text{ Kc.}$$

where Y is the number of the harmonic and is usually 5 or 6;

X is the frequency of the low frequency oscillator;

43,000 Kc. is conversion frequency; 455 Kc. is i.f. of receiver.

The writer strongly advises anybody starting to build a receiver for six to proceed along these lines. He will thus circumvent many troubles he would run into otherwise and will finish up with a very satisfactory converter. He has the receiver problem beaten and all that is needed then is to buy a nice house on top of a nice big hill, totally unscreened and devoid of all extraneous noises! With these few little things, and also 40 megacycle output with a 7 Mc. crystal and one tube, what more do you want?

CIRCUIT DIAGRAMS OF TA12B TRANSMITTERS

Circuit diagrams of the TA12B R.F. Units can now be obtained by applying to the Secretary, Victorian Division, 191 Queen Street, Melbourne.

These diagrams would also be suitable for TA12C and TA12D Units, which are identical except for the ranges covered. The costs to cover prints, duplicating parts lists, and mailing are:—

R.F. Unit circuit diagram, 30" x 11" and parts list, 5/-.

Modulator Unit diagram, 30" x 11" and parts list, 5/-.

Please specify whether diagrams are required for R.F. Unit only, Modulator Unit, or both. Forward money order, postal note, or cheque with application, country cheques to include exchange.

A few photostat circuit diagrams and parts lists of the 522 are still available at 7/6 each.

A.O.C.P. CLASS

The Victorian Division A.O.C.P. Class will commence on Thursday, 12th January, 1950. Lectures are held on Monday and Thursday evenings from 8 to 10 p.m. Persons desirous of being enrolled should communicate with Secretary W.I.A., Victorian Division, 191 Queen St., Melbourne (Phone FJ 6997 from 9 a.m. to 6 p.m.), or the Class Manager on either of the above evenings.

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Ferranti 0-500 Microampere Meters, luminised dial, new, £2 each.

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MODULATOR Type M2-75 is a complete unit with Standard 10½" Panel and Chassis and including high impedance microphone pre-amplifier, driver stage, 807 triode Class B final stage, and a negative peak clipping circuit. It is capable of 75 watts output in the frequency range 200-7000 c.p.s. when used in conjunction with suitable power supplies.

The modulation transformer is carefully designed and is a semi-universal type providing adequate primary and secondary taps for many modulator and transmitter valve combinations. It is fitted with an adjustable protective spark gap, ceramic insulators, and the mounting is reversible.

MODULATOR Type M3-75 is similar but does not include the pre-amplifier section. The input impedance is 600 ohms, transformer coupled to the driver valve, requiring an input level of 0 d.b.m. (0.75 volt, 1 mW.) for full output.

Major components such as Transformers, Cabinets, Chassis and Panel, etc., may be purchased separately if so desired. A descriptive leaflet showing full details, illustrations, circuit, parts list and prices is available on request.

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PHONE: LA 3657

Available from:—

WM. WILLIS & CO., Bourke St., Melb. (MU 2426).

J. H. MAGRATH & CO., 308 Lt. Lonsdale St., Melb.

(Phone: Central 3688).

Wholesale Distributors:—

R. H. CUNNINGHAM & CO.,

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High Frequency R.F. Chokes

On the higher frequency bands (10 metres and up) the Amateur is faced with a double problem. Should he use r.f. chokes in the grid or plate or filament circuit, and if so, what type of choke should be used. The question of "shall I use an r.f. choke here" is often answered by looking through circuit diagrams to see if others used a choke in that place in the circuit. On the other extreme, an Amateur may decide not to use any chokes because he has experienced trouble with r.f. chokes causing parasitics.

This indecision on the part of the average Amateur is partially caused because he does not understand how an r.f. choke works. Or, if he understands r.f. chokes, he may find that the proper choke is not available commercially. The purpose of this article is to explain briefly how r.f. chokes operate and to give details on how to build good high frequency chokes.

OPERATION OF R.F. CHOKES

A radio frequency choke is normally used to provide a d.c. path from a point of zero r.f. voltage to a point where r.f. voltage exists. In Fig. 1A, the r.f. choke is in series with the high voltage lead and serves to prevent an r.f. current from flowing through the power supply. Condenser C1 presents a low impedance path for the r.f. current so that the current can return to the cathode circuit of the tube. Fig. 1B shows an r.f. choke in a parallel feed circuit. In this case the r.f. choke must be designed so that practically no r.f. current passes through it, because the r.f. current must pass through C2 to the tank circuit.

What magic property is built into r.f. chokes which enables them to pass d.c. currents and yet act as effective barriers to radio frequency currents? Obviously an r.f. choke must have inductance, capacitance, resistance or some combination of these three. The answer is found in the word "impedance," which is another way of saying "resistance to radio frequency current." The inductance, capacitance and resistance which are present in a choke combine in a certain way at certain frequencies and it is this combination that is called impedance.

It is not necessary for an r.f. choke to act like a high inductance in order to work properly. Probably the most common r.f. choke is the 2.5 millihenry type with four pies. This type is normally used as a series choke on the lower frequency Ham bands.

This type of choke has a relatively high impedance which is due to capacitive reactance. Because this and other types of r.f. chokes which cover a large frequency range are subject to resonant points at certain frequencies it is wise to use them only in circuits where they have been tried and found adequate.

In high frequency circuits, r.f. chokes are relatively important. Unfortunately the standard 2.5 millihenry choke will not serve in most cases, so that special high frequency chokes are desirable. Because the frequency is high,

the chokes become simpler to construct. In fact, single-layer windings are desirable.

In addition to their simplicity single-layer r.f. chokes have an electrical property which is very desirable. If a choke is designed to be self-resonant at a frequency which is close to the frequency or frequencies of desired operation, the choke will be very nearly a perfect choke in that it will be effectively a pure resistance of a very high value. For example, if a choke is desired for six metre work, it might be designed to be self-resonant at 45 megacycles. This means that at 45 Mc. the choke will appear to have no inductance and no capacitance. The impedance at 45 Mc. will be quite high and will appear to consist only of pure resistance.

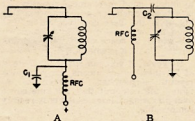


Fig. 1.—Illustrating Series and Shunt Feed R.F. Chokes.

At higher frequencies the choke will appear to have a very high resistance and some small amount of capacitance. This capacitance may be in the order of a micro-micro-farad. A small amount of capacitance in this order will not affect the operation of the choke.

A review of the above in capsule form shows us that—

1. Regular 2.5 mH. r.f. chokes, designed for operation over a wide frequency range, are generally not too efficient on the higher frequency bands (10 metres and up).
2. For optimum operation, r.f. chokes should be designed for one frequency, especially for the more critical service as parallel chokes, as shown in Fig. 1B.
3. Home-made chokes for low frequency work would be bulky and difficult to construct, but for high frequency work single-layer r.f. chokes are easy to construct and have the advantage of being almost perfect chokes electrically.

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CONSTRUCTIONAL DETAILS

High frequency r.f. chokes may be wound on practically any insulating material, such as wood, bakelite or polystyrene. The exact nature of the insulating material will determine, to some extent, the quality of the completed choke. Generally it is not necessary to go to these materials, as very satisfactory chokes can be wound on ordinary resistors.

WINDING DATA

Here is the complete winding data for four high frequency chokes—

10-11 Metre Choke—No. 30 enamel wire close wound to cover 11" on an old-style 2 watt resistor (5/16" diameter).

6 Metre Choke—44 turns of No. 30 enamel wire wound on new-style 2 watt resistor (5/16" diameter).

2 Metre Choke—17 turns of No. 22 enamel wire wound on new-style 2 watt resistor (5/16" diameter).

1.25 Metre Choke—16 turns of No. 22 enamel wire wound on new-style 1 watt resistor (7/32" diameter).

Use only insulated composition type resistors (not wire wound). Use resistors of a high value—one megohm or higher. File a small notch on each end to catch the wire and hold it. The wire can be soldered first to one pigtail, the choke wound, then the wire twisted around the other pigtail, the insulation removed, and then finally soldered.

Do not attempt to make any changes in specifications. Use the proper resistors and the right size enamelled wire. A thin layer of coil cement may be placed on the completed chokes if desired.

The 144 and 220 Mc. r.f. chokes specified above use heavy enough wire so that they may be employed in filament circuits if the current does not exceed one ampere. The 28 and 50 Mc. chokes are to be used only in circuits where the current is in the order of 0.1 amperes, although they might possibly stand twice this current in Amateur service. All of the chokes are suitable for use as shunt-feed chokes.

—G. E. "Ham News," Jan.-Feb., 1949.

IMPORTANT

In order that the January issue may be printed before the Christmas holidays, Advertisers and Contributors are requested to forward their copy so that it reaches Melbourne not later than 1st December—THANK YOU.

CHANGE OF ADDRESS

Readers' attention is directed to the change of address of Trimax Transformers from North Melbourne to their new factory and offices at Charles St., North Coburg. All mail should now be addressed to Box 2, Coburg Post Office. The new telephone number is FL 1203.

SPORADIC E OBSERVATIONS

BY M. E. COLLETT,* VK2RU

Following on his article, "What, No Beacons," by VK2RU, it was thought that more precise data on Sporadic E observations would be of general interest to the v.h.f. boys.

Fig. 1 illustrates Sporadic E plotted against days of the years commencing 1st October, 1948, to 30th September, 1949. The shaded squares indicate days when it appeared that the ionisation was sufficiently intense to support 50 Mc. communication, and the black squares the days when contacts were actually made via Sporadic E.

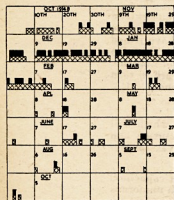


Fig. 1.

It will be seen that the general pattern observed in the southern hemisphere in regards intense summer activity, mid-winter peak and 27-day cycle, follow closely on similar observations in the northern hemisphere. The chart follows also very closely on similar ones which were made for previous two twelve month periods.

Some interesting points emerge from the observations. The optimum distance for single hop contacts appears to be in the vicinity of one thousand miles. Double hop contacts involve intense ionisation of widely separated portions of the upper atmosphere and are naturally less frequent. However, it seems that ionisation sufficiently intense to support 50 Mc. transmission is much more frequent than was previously supposed.

Fig. 2 illustrates the Sporadic E condition on a particular day and shows the m.u.f. for a distance of 1,000 miles between two selected points as the "cloud" passes between them.

It will be noted from Fig. 2 that communication was possible on 50 Mc. for approximately one hour between the observing positions, but for only half an hour on 60 Mc.

The Sporadic E condition appears to completely mask reflections from the

higher regions of the ionosphere with resultant fade-outs on the lower frequencies.

Incidentally it has been found the optimum angle of radiation for this type of transmission is between 5 and 9 degrees.

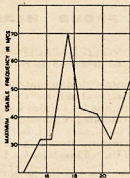


Fig. 2.

N.P.L. Eng., 14th July, 1947.

Naturally Fig. 1 provides only a very broad picture of the phenomenon, in as much as it does not show the area, the movement or to some extent the degree of the ionisation, but it does give a good idea of what may be expected in an average year in the way of 50 Mc. DX contacts.

SUB-ANTARCTIC RADIO STATION

The Australian National Antarctic Research Expedition has established radio stations on Heard and Macquarie Islands, in sub-Antarctica. These stations are part of "A Class" weather and scientific posts set up as items in a long-range plan to explore and study Australia's vast Antarctic Territory. The pioneer Heard Island party, under meteorologist Aubrey Götley, of Bexley, N.S.W., was relieved in February after 14 months' service. The Macquarie Island party will be relieved at the end of March.

Senior radio operator at Heard Island was Mr. L. Macey, of Sydney, assisted by Mr. Alan Campbell-Drury, of Melbourne, and Mr. Arthur Scholes, of Sydney. These operators maintained daily contact with Sydney (four schedules each day) and with the South African weather station at Marion Island, 1,500 miles north-west of Heard Island.

Heard Island is 3,500 miles south-west of Melbourne and about 900 miles from the Antarctic Circle. The ANARE weather station there will be maintained for several years. Relief radiomen now on duty at the Island are Ronald George Ferguson Oatt, of Clifton Hill, Mel-

bourne; John Paddock of Colonel Light Gardens, Adelaide; and Hedley C. J. Burnett, of Ascot, Brisbane.

Mr. Oatt, who is senior radio officer, was a technician with Radio Australia, Melbourne (the short wave division of the Department of Information) when he joined the expedition. During the war he served as a wireless air-gunner with No. 466 Bomber Squadron in the United Kingdom. He is one of two licensed Ham radio operators with the expedition. His call sign is VK1VU. He is 24.

The other licensed Ham is Arthur R. Burton, a 50-year-old engineer from Brisbane, Queensland. His call sign is VK1FE, well-known to many Hams under the call sign of VK4FE. He intends to keep in touch with them from Heard Island. The only grandfather with the party, "Pop" Burton is a veteran of two world wars. In the 1939-45 war he served with the 6th Division, Australian Imperial Forces, in the Middle East and took part in evacuations from Greece and Crete. Before joining the Australian Antarctic Expedition he was a diesel radio technician with the Postmaster General's Department.

On his return to Australia, Mr. Macey, leader of the pioneer radio party, said it was harder to maintain radio contact with Australia than with South Africa because of ionospheric conditions.

Mr. Macey and Mr. Campbell-Drury erected four 70 ft. aerial masts, each with 10 guy wires. They found it impossible to blast holes in the volcanic rock so the guys were anchored to oil drums filled with heavy stones.

"During the year it was frequently necessary to climb to the top of the masts to replace halyards and unfurl aerials coated with clear ice," said Mr. Macey. "This was an unpleasant job in winter, with blizzards raging. The aerial wires would snap after being covered with an inch thick layer of ice. This problem has now been corrected by using heavier wires.

"We were unsuccessful in our efforts to hear Macquarie Island, although they could hear us. Heard Island is an excellent location for Ham radio transmissions and we received messages from all parts of the world, including the Arctic Circle. Radio transmission was not affected by the volcano Big Ben and the island's range of mountains. When atmospheric conditions were good, reception was particularly clear."

— . . . —

THIRD ALL-EUROPEAN DX COMPETITION

This year the Czechoslovak Amateur Radio Society—C.A.V. is sponsoring the third All-European DX Competition, which is being conducted over two week-ends, each 48 hours long; one for c.w. work and one for phone.

The c.w. section starts at 0001 G.M.T. Saturday, 26th November, 1949, and ends at 2400 G.M.T. Sunday, 27th November, 1949.

The phone section starts at 0001 G.M.T. Saturday, 2nd December, 1949, and ends at 2400 G.M.T. Sunday, 4th December, 1949.

* 85 Mann Street, Gosford, N.S.W.

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We will offer you, too, a multitudinous range of capacitors manufactured by the British Companies, although numerous types have been earmarked for eventual local production.

Highlights in the British range are: Industrial Power Factor Correction, Metalmite and Metalpack super tropical Capacitors; Miniature Metalmites; Hi-K Ceramics having a K value of 3,000—an outstanding development; Micadisc and Silver Mica types; and Transmitting Capacitors, including the T.C.C. "Hi-Load" Power Ceramics. A complete range of types for Television applications is available. Ultimately, all locally made Capacitors will be branded "U.C.C.," but for a time, the "Tecnico" brand will appear on some items; among other reasons is the fact that stock already manufactured by Tecnico Limited is being taken over.

To the existing clients of Tecnico Limited, as well as to all potential purchasers of our capacitors, we pledge ourselves to render the best possible service. We believe that, with our combination of local and imported types, we can extend unique assistance to all, and we shall be grateful for the opportunity of so doing.

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Tasmania Wins 1949 Remembrance Day Contest

It will be readily seen from the following results just how popular this Contest has become—and rightly so. The standard of operating was particularly high and signals were, with few exceptions, exceptionally good. The popularity and intensity of friendly Interstate rivalry may be gauged from the large number of logs received. Out of a total of some 450 participants, no less than 225 logs were received (and checked)—surely a record percentage.

It is unfortunate that 50 of these logs were not eligible (for various reasons) for assisting their States' scores. The job of the Contest Committee was not made any easier by the untidiness of some entries, but generally speaking log entries were particularly clear and neat. Please remember those who have to check your logs when entering future Contests!

Some interesting statistics are being put aside for future reference. With due regard to the high percentage of log entries from the small States, the new multiplier would appear to make it impossible for the larger States to win the coveted trophy. An interesting point evolved from the figures showed that of the 12,471 QSOs, 6,600 took place on telephony and 5,871 on c.w.

And now down to the business of scores—our heartiest congratulations go to TASMANIA who clearly won from Western Australia. The table at the foot of the page sets out the facts.

INDIVIDUAL SCORES

Individual scores in the following are listed below. The figures represent in the following order: Call Type of Emission (O—Phone and C.W., P—Phone only, and C—C.W. only), Bands Used, Contacts, and Points scored. Logs not eligible are listed at the end of each State list and show the claimed points of the station concerned.

NEW SOUTH WALES

VK1FA	O 4 197 472	VK2RN	C 2 41 88
VK1ZC	C 3 169 378	VK3JX	P 2 15 85
VK1SH	O 3 135 322	VK2AJT	O 2 39 81
VK1RA	C 4 123 311	VK1OF	O 1 44 79
VK2O	O 4 125 310	VK1AN	P 2 24 76
VK2DO	C 3 136 308	VK1OP	P 1 50 74
VK2GW	C 3 118 298	VK1AMP	P 1 19 63
VK1YA	O 3 123 294	VK1PY	C 1 22 59
VK1VL	O 4 104 287	VK1ZF	P 1 18 55
VK2AHA	O 4 121 274	VK1VH	P 1 16 48
VK2OB	O 4 111 255	VK1PT	P 1 14 38
VK2PC	O 2 109 247	VK1AO	P 1 13 38
VK2ZX	O 2 90 219	VK1AHI	O 1 15 35
VK2B	P 2 83 194	VK1VN	C 3 11 33
VK2AN	C 2 66 167	VK1RF	C 1 17 31
VK2PN	O 3 82 165	VK2HC	O 3 13 28
VK2TB	P 2 89 162	VK1AC	O 2 9 28
VK1AM	O 2 51 177	VK1BB	P 1 13 27
VK2OW	P 1 44 106	VK1GO	C 1 9 20
VK2OA	C 1 40 100	VK1SD	P 2 9 20
VK1ASW	C 1 36 96	VK1BR	C 1 7 14
VK1ASM	P 1 33 91	VK1AUN	C 1 7 11

INELIGIBLE LOGS

VK2NY	O 2 125 304	VK1ADV	O 1 27 66
VK2DI	C 2 94 250	VK1ADA	P 1 17 55
VK2YC	C 3 76 209	VK1TA	P 1 6 27
VK1XP	P 2 53 160	VK1HM	P 1 8 24
VK1ANA	P 2 52 126	VK1AQ	P 1 7 19
VK2MT	O 2 46 114	VK1AL	C 1 5 14
VK2DQ	O 2 36 100	VK1SZ	C 1 6 13
VK2WD	P 1 26 75		

VICTORIA

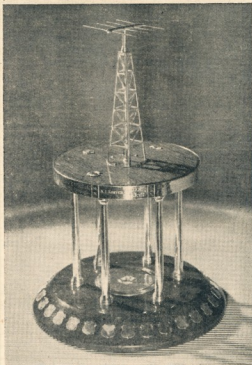
VK1AAW	O 2 170 379	VK1AWN	P 2 45 119
VK2YS	O 5 118 348	VK1DG	C 3 46 99
VK2KX	O 4 146 323	VK1ADF	C 2 34 95
VK1AAW	P 2 110 322	VK1TB	C 2 42 93
VK1UM	C 3 103 345	VK1UI	P 4 28 73
VK1ZC	C 3 103 329	VK1AKL	P 1 76 71
VK1HT	O 3 75 317	VK1HL	P 3 34 70
VK1BD	O 3 84 313	VK1SH	P 1 5 63
VK1XB	O 4 84 292	VK1PR	C 2 29 60
VK1PF	O 3 107 193	VK1ASB	C 2 26 55
VK1PG	O 3 81 181	VK1JL	C 1 16 37
VK1VQ	P 3 60 172	VK1GZ	C 2 30 35
VK1DS	P 2 51 156	VK1RJ	C 1 11 27
VK1AP	O 2 44 141	VK1C	C 1 6 11
VK1ANL	P 2 91 126	VK1AGD	P 1 6 6
VK1ADG	C 3 57 119		

INELIGIBLE LOGS

VK1AML	P 2 111 298	VK1YF	C 2 45 101
VK1SW	O 4 109 260	VK1NF	C 2 33 68
VK1E	O 3 69 211	VK1X	C 2 21 46
VK1RH	O 3 85 196	VK1KE	C 1 3 9
VK1TM	P 1 78 181	VK1ACH	P 1 2 8
VK1EA	O 2 97 131		

QUEENSLAND

VK1FN	P 4 135 323	VK1XJ	O 3 106 194
VK1CO	O 2 127 302	VK1JZ	P 2 36 183
VK1W	O 2 131 299	VK1GH	O 3 76 152
VK1ZB	O 2 126 255	VK1KW	P 1 38 151
VK1ER	O 2 105 219	VK1SN	C 2 69 132
VK1RT	P 3 80 259	VK1BG	P 2 50 107



The Remembrance Day Trophy

VK1HD	P 4 37 87	VK1AFB	P 1 18 47
VK1AP	C 3 26 59	VK1JF	C 2 22 38
VK1HZ	P 2 30 87	VK1MA	P 1 6 7

VK1BQ	P 2 48 182	VK1HS	P 1 14 68*
VK1DO	O 1 56 138*	VK1CU	P 3 17 43*
VK1FO	C 1 43 83		

SOUTH AUSTRALIA

VK1OU	C 3 147 369	VK1AX	P 2 60 146
VK1FX	O 3 142 362	VK1C	C 2 56 126
VK1RG	O 2 140 312	VK1RX	C 1 30 109
VK1CT	O 2 134 297	VK1UK	O 1 42 93
VK1VM	O 2 104 258	VK1KR	C 2 40 85
VK1PM	C 3 117 249	VK1G	C 2 31 86
VK1SE	O 2 108 241	VK1SZL	P 3 45 25
VK1RR	O 2 91 222	VK1AW	P 3 20 44
VK1SN	P 2 98 217	VK1JO	C 1 21 38
VK1MD	C 3 98 201	VK1BE	P 1 13 29
VK1FH	O 3 73 184	VK1GL	O 2 13 28
VK1SU	P 2 61 164	VK1VO	C 1 16 21
VK1LD	C 2 66 159	VK1HR	C 2 8 18

INELIGIBLE LOGS

VK1CD	O 2 48 120*	VK1SW	P 2 8 19
VK1JT	C 2 39 94*	VK1RT	C 1 7 12*
VK1JW	C 1 29 90*		

WESTERN AUSTRALIA

VK1RU	O 3 195 420	VK1FW	P 3 89 210
VK1GA	O 3 133 300	VK1ZZ	P 2 64 140
VK1MR	O 2 124 285	VK1BF	O 2 57 127
VK1DX	C 3 138 263	VK1V	P 2 59 124
VK1U	O 3 168 228	VK1WM	C 1 37 76

VK1HM	P 2 20 48
VK1BL	O 3 23 40
VK1L	P 1 18 38
VK1WH	O 1 12 34
VK1AH	P 1 14 32
VK1OR	P 1 14 31
VK1PJ	P 1 15 25
VK1AP	P 1 7 24
VK1RW	P 1 7 22
VK1MO	P 1 6 21
VK1JR	P 1 7 20
VK1WT	C 1 6 20
VK1JG	O 1 10 17
VK1SA	C 1 9 17
VK1WZ	P 1 9 16
VK1HL	P 1 6 16
VK1MK	P 1 5 15
VK1JE	C 1 8 15
VK1LM	P 1 3 12
VK1CN	P 1 6 10
VK1FR	P 1 9 8

INELIGIBLE LOGS

VK1FL	O 2 94 238*
VK1DJ	C 2 88 204*
VK1CP	P 2 59 144
VK1AR	P 1 31 85
VK1AS	P 1 19 42
VK1NL	P 1 18 38
VK1DD	P 1 8 22
VK1MG	P 2 6 12*

TASMANIA

VK1ZL	O 4 193 436
VK1RK	O 4 121 319
VK1Y	P 2 109 245
VK1AL	O 5 25 238
VK1AJ	P 2 112 231
VK1CP	O 2 110 231
VK1TC	O 3 118 235
VK1BQ	P 2 79 173
VK1DS	O 2 66 140
VK1CT	C 2 39 117
VK1MY	P 2 36 96
VK1CF	P 3 44 73
VK1BJ	P 1 21 38
VK1FM	P 1 28 34
VK1GR	P 1 15 28
VK1JL	C 2 30 23
VK1RB	P 1 17 21
VK1TE	P 1 12 20
VK1RY	C 2 10 14
VK1PJ	P 1 12 22
VK1IL	O 2 57 8
VK1HY	P 1 21 6

INELIGIBLE LOGS

VK1JB	C 3 79 204	VK1YL	C 1 7 17*
VK1SJ	P 2 68 152	VK1DB	P 1 14 16
VK1RM	O 1 13 42	VK1CA	P 1 6 6

NEW GUINEA, Etc.

VK1NR	C 1 13 47	VK1C	C 2 12 25*
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LISTENER'S LOG

BERS-195 E. Trebleck	O 3 104 244
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* No signed statement. † Insufficient contacts.
! Incorrect set-out of Log. ‡ Late entry.

! Wrong numbering system.

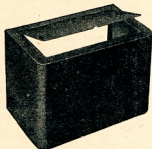
Amateur Radio, November, 1949

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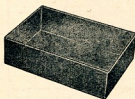
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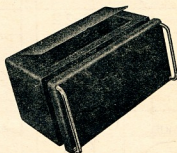
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Cat. Nos. 643, 627

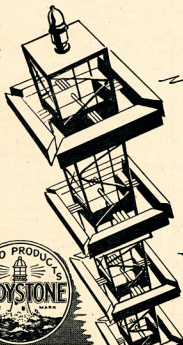


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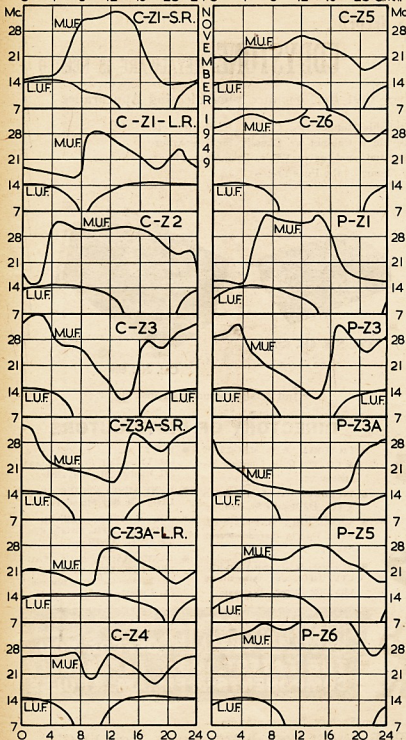
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IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

0 4 8 12 16 20 24 0 4 8 12 16 20 24 G.M.T.



IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

NOVEMBER, 1949

The accompanying charts have been prepared by the Ionospheric Prediction Service of the Commonwealth Observatory. The first set of the series was published in the November, 1948, issue of this magazine, together with an article explaining the nature of the forecasts and how to use them. Nine of the charts, prefixed by the letter "C" for Canberra, refer to forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

The Canberra charts refer to the following world zones:—

Zone	Region	Terminal
1	Western Europe	London
2	Mediterranean	Cairo
3	N.-West America	San Francisco
3a	N.-East America	New York
4	Central America	Barbados
5	South Africa	Johannesburg
6	Far East	Manila

The forecasts have actually been prepared for point-to-point circuits between Canberra and the overseas terminals mentioned in the above table. It is, however, to be expected that the charts will provide an approximate indication of ionospheric conditions for all Amateur contacts from South Eastern Australia to the various world zones.

The Perth charts are similar to those based on Canberra. No forecasts are given from Perth to Zones Z2 and Z4 for the current month, as chart P-Z2 would be essentially similar to chart P-Z1, while chart P-Z4 might be unreliable due to auroral activity in high northern latitudes.

USE OF CHARTS

All that is necessary in using the charts is to select a time (G.M.T.) during which a specified Amateur band frequency is below the maximum usable frequency (m.u.f.) of the F region of the ionosphere but above the lowest useful frequency (l.u.f.) for the desired contact. In two cases, Zones 1 and 3a it is necessary to consult both the short-route (S.R.) chart and the following long-route (L.R.) chart.

QUIZ

The Prediction Service welcomes comments on the accuracy of its predictions. In particular, answers to the following questions on the Canberra-Far East (Manila) circuit would be useful:—

1. Did the 7 Mc. band regularly become workable at about 0900 hours G.M.T. and unworkable at about 2000 hours G.M.T.?
2. Was the 14 Mc. band workable except for a few hours after Greenwich midnight?
3. Was the 28 Mc. band workable except for a few hours before Greenwich midnight?

Answers to the Quiz should be sent to the W.I.A. and should, if possible, refer to consistent results obtained on the majority of days in the month.

Six-Second Low Voltage Soldering Iron

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It consumes no current when not in actual use; it can perform the work of a number of ordinary soldering irons ranging from 25 to 150 watts, for battery as well as mains voltages.

The iron can be worked in a maze of delicate wiring to reach otherwise inaccessible spots without radiating heat in all directions and applies the heat only where and when required. The high rate at which heat is transferred to the work makes the production of dry joints almost impossible; the intense local heat developed prevents damage to adjacent parts which must not get hot; and is considerably lighter than most ordinary soldering irons as well as switching itself off automatically as soon as put down.

The length is 10", weight 3½ oz., bit ¼" screwed into ⅜" shank, heating up time is 6 seconds (on 4v.).

Any supply between 2.5 and 6v. a.c. or d.c. can be used. With the 4v. transformer, optionally supplied, the heating up time is 6 seconds and the current drain approximately 20 amp. In view of the short time necessary to bring the Scope Soldering Iron to the required temperature, the watt hour consumption is negligible. If the voltage exceeds 4v. on load, an extension cable at the ratio of 2 yards for each volt above 4 is recommended. Connected to a car battery, the red lead should be taken to the ungrounded battery terminal or intermediate tapping to avoid the danger of a short circuit between the copper bit and ear chassis.

Manufacturers are Scope Laboratories, Melbourne. Price is 43/6 each, plus transformer if required. Australian Representatives are R. H. Cunningham & Co.

IMPORTANT

Would all Magazine Contributors please note that all contributions must be addressed to "Law Court Chambers," 191 Queen St., Melbourne, and NOT to the old box number.

Contributions, particularly notes, if addressed to the box number may not be received in sufficient time to be included in Magazine for the month for which they are intended.



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M 1475-76-77

Compiled by J. K. RIDGWAY, VK3CR.

TASMANIA

ZL4AF heard what he believes was a VK7 signal on 8th August at 2000 hours. It stayed S7 for an hour. Not from the southern end of the Isle, who was it?

NEW SOUTH WALES

Many new stations have appeared on this band and f.b. signals can be heard every night. Among the new stations and others operating upon this band are: 2AAJ, 2ABC, 2ADV, 2ABH, 2AEM, 2EW, 2AQO, 2XK, and others. Stations also active are: 2HO, 2ARG, 2WJ, 2BZ. Cross band is used quite a lot on this and 6 metres.

The weather excelled itself for the Gladesville Radio Club's "D/F Field Day." Fifteen mobile amateur stations entered the field. QRM was fairly solid which made things interesting to say the least. The placing are: 1st VK8ADY (3) Kingsford Club, score 1004; 2nd VK8ADY (1) Gladesville Club, 78; 3rd VK8ADY (15) 2AZD's station, 58. The Committee are busy hatching up new field days, lectures, and picnics. Attendances and membership are increasing, new and larger club rooms recently became available to this progressive Radio Club.

VICTORIA

Just to prove the writer was wrong when he stated last month that the band is entirely crystal controlled in VK3, a number of stations have come using the simpler type of gear and they are putting out very strong signals. The first was from the most selective receivers. The first is 3GU of Ivanhoe who has a transceiver using a 7193, with about 2 watts input on transmit, and a dipole antenna. Alfary has worked quite a number of stations and is now to be beating the very best. The second is Hendon Dandenong, is also using a single 7193, and by modulating with a pair of 2A3s, puts out a signal with excellent quality. BJO, although by no means a very strong station, has been very much more active lately and is putting out a stronger signal from his 955 since putting up a series phased

Several stations have been experimenting with the series phased beam. 3FO being the first one to get the tests going. The beam is arranged with a folded dipole in place of the more usual 300 ohm terminating resistance, and gives considerably more gain than a 4 element parasitic beam. Others to use this type of beam are 3KE and 3BH, while 3EM is also considering putting one up in place of his present 14 element which is rather bulky.

3UO, of Sale, approx. 110 miles east of Melbourne, has been on the band nightly looking for Melbourne contacts. So far there has been no break through although a signal from the Melbourne direction has been heard but not identified. Such persistence certainly deserves results and we hope 3UO is successful in making contacts with the city before long.

TASMANIA
VK7PF, interested in six metre openings for other

reasons, intends watching 2 metres this year in the hope of working into VK3. To this end he has arranged skeds with VE3AKE. VE7PF's frequency is 145.92 Mc.

7BM has crystal rig working OK. 815 final with about 20 watts input. New receiver is a corn converter working into Eddystone 640. Understand Bill using some form of super modulation, yes! On two metres.

576 Mc. JOTTINGS

New South Wales.—Three stations getting out on this band are: 2ALU, 2PB and 2AWZ. A receiver located at 2AWZ received 89 plus signals from 2ALU and 2PB. The former uses p.p. RL18 as a i.p.t. cathode oscillator. No difficulty was experienced in getting output. A corner reflector giving 12 db gain was used. 2PB has a 6J6 going on 576 Mc. and a four element beam. The receiver used

has a super-gen-955 and 955 audio. Victoria.—After several quiet months, business has got under way again on this band and once more the familiar nightly cross-band tests can be heard being carried out between 50 and 576 Mc. On the evening of the 28th September, 3ANW operated portable from Mt. Dandenong and worked 3QO, 3XA and 3ABA, two way on 576 Mc. with good signals in all cases. 3RR and 3IM were also heard, but not contacted two way, and 3DA heard

FEDERAL, QSL, and DIVISIONAL NOTES

Federal President: W. R. Gronow, VK3WJ; Federal Secretary: W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary—Dick Dove (VK2RP), Box 1734, G.P.O., Sydney.

Meeting Night—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.

Divisional Sub-Editor—L. D. Cuffe, VK3AM, 14b Watson Street, Neutral Bay, N.S.W.

Zone Correspondents—North Coast and Tablelands: P. A. H. Alexander, VK3FA, Hill St. Post Office, Newcastle; H. Whyte, VK3AIA, Vale St., Birmingham Gard., Newcastle; Coalfields: L. Lake, H. Hawkins, VK3YU, 27 Comfort Ave., Newcastle; Western: G. J. Russell, VK3QA, 116 Bagen St., Nyrangan; South Coast and Southern: R. H. Rayner, VK2D0, 42 Pettit St., Yass; Western Suburbs: A. C. Pounce, VK2AB, 48 Harrahbrook Ave., Five Docks; Eastern Suburbs: H. Kerr, VK2AX, No. 4 Flat, 114 Hewlett St., Bronte; North Sydney: L. D. Cuffe, VK3AM, 179 Military Rd., Gladesville; St. George: J. Ackerman, VK2AIG, 32 Park Rd., Carlton; South Sydney: V. H. Wilson, VK2YW, Cr. Wilson St. and Marine Pde., Maroubra.

VICTORIA

Secretary—C. C. Quin, VK3WQ.

Administrative Secretary—Mrs. O. Cross, Law Court Chambers, 191 Queen St., Melbourne, C.I.

Meeting Night—First Wednesday of each month at the Radio School, Melbourne Technical College.

Zone Correspondents—North Western: R. E. Trebilcock, VK3TL, 122 Victoria St., Kerang; Western: C. G. Waring, VK3YW, 12 Skene St., Bawley; South Western: W. H. Ross, VK3UT, Ballantrah, via Warrnambool; North Eastern: J. A. Miller, VK3ABG, "Erinville," Avenel; Far North-Western: Harry Dobson, VK3MF, 48 Walnut Ave., Mildura; Eastern Zone: Mrs. P. M. Churchill, VK3US, "Shirley," Red Hill.

FEDERAL

DX C.C. LISTING

Many applications have been received recently, but new applications are not being accepted. No additional DX listing listings, that have not enclosed a list of the claimed stations or postage for return of the cards to the sender. Please ensure that when next sending a batch of cards, you comply with the above.

PHONE

VK3JD (1)	36	130
VK3KX (4)	36	121
VK3RU (2)	37	121
VK3BE (8)	37	119
VK3DD (6)	39	105
VK3JE (7)	100	
VK3IG (5)	100	

C.W.

VK3BE (5)	40	151
VK3ON (1)	40	143
VK3YU (4)	39	134
VK3RU (5)	39	134
VK3QL (5)	40	132
VK3EK (8)	39	121
VK3KB (10)	39	120
VK4HR (8)	40	119
VK4RP (11)	35	118
VK3ED (2)	40	115
VK4AD (7)	39	114
VK3UM (12)	37	108

New C.W. Members

VK3FH (15)	37	108
VK3GW (16)	38	107

OPEN

VK3BE (4)	40	175
VK3DI (2)	40	159
VK3RU (5)	39	153
VK3JE (12)	39	153
VK3HG (3)	40	146
VK3H (7)	40	146
VK3WV (13)	39	144
VK3MC (5)	39	138
VK3EX (1)	39	135
VK3AD (7)	39	123
VK3OP (19)	39	123
VK3AHA (9)	40	123

New Open Member

VK2ADE (28)	130	
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Another application has been received from VK4JP for the Phone Award and still awaits checking.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI—Sundays, 1100 hours EST, 7195 Kc. and 3900 hours EST, 50.4 Mc. No frequency checks available from VK2WI. Intra-State working frequency, 7175 Kc.

VK3WI—Sundays, 1130 hours EST, simultaneously on 3580 and 7195 Kc. and re-broadcast on 50 and 144 Mc. bands. Intra-State working frequency 7185 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI—Sundays, 0900 hours E.S.T. simultaneously on 3750 Kc., 7195 Kc., 14342 Kc., 52.4 Mc. and 144.138 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7065 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 service to VK4VI.

VK5WI—Sundays, 1000 hours SAST, on 7195 Kc. Frequency checks are given by VK5WD on Friday evenings on the 7 and 14 Mc. bands.

VK6WI—Saturdays 1400 hours, Sundays 0930 hours WAST, c/w 7195 Kc. No frequency checks available.

VK7WI—Second and Fourth Sundays at 1000 hours E.S.T. on 7195 Kc. No frequency checks are available.

W.A.C. AND W.B.E. APPLICATIONS

All applications for W.A.C. and W.B.E. Certificates should be forwarded through your Divisional Council for membership checking and forwarding to the Federal QSL Manager. In the case of the W.B.E. Certificate, unless the applicant is a member of the R.S.G.B., a 2/6 note or money order to cover the cost of 2/6 sterling for the Certificate should be included with the application. Applications for other than the above overseas Certificates should be forwarded direct to the Society concerned.

W.I.A. ACTIVITIES CALENDAR

Nov. 5-7: "CQ" DX Contest (c.w.)
Nov. 26-27: Third European Contest (c.w.).
Dec. 3-4: Third International Contest (phone).
Dec. 10-11: A.R.C.I. International DX Cont.
Dec. 17-18: A.R.C.I. International DX Cont.
Dec. 19: Motion for 20th Federal Convention due.
Jan. 28-29: Australian National Field Day Contest.
Jan. 31: Membership Roll of each Division due.

FREQUENCY ALLOCATIONS

The following is a list of the bands available for use by the Amateur Service in Australia, allowed by the type of emission allowed on those bands:

bands.					
3.5	to	3.8	Mc.—A1, 3, 2a, 6F3.		
7.0	to	7.2	Mc.—A1, 3, 3a, 6F3.		
14.0	to	14.4	Mc.—A1, 3, 3a, 6F3.		
25.96	to	27.25	Mc.—A1, 3, FM.		
28.0	to	30.0	Mc.—A1, 3, 3a, 6F3.		
56.0	to	64.0	Mc.—A1, 2, 3, FM.		
144	to	148	Mc.—A1, 2, 3, FM, Pulse.		
258	to	266	Mc.—A1, 2, 3, FM, Pulse.		
576	to	585	Mc.—A1, 2, 3, FM, Pulse.		
1215	to	1300	Mc.—A1, 2, 3, FM, Pulse.		
2300	to	2450	Mc.—A1, 2, 3, FM, Pulse.		
3650	to	3850	Mc.—A1, 2, 3, FM, Pulse.		
10000	to	10500	Mc.—A1, 2, 3, FM, Pulse.		
15000	to	25000	Mc.—A1, 2, 3, FM, Pulse.		
30000	Mc.	and higher—	A1, 2, 3, FM, Pulse.		

Note.—6F3 emission represents a maximum deviation from the quiescent frequency of plus or minus 3 Kc.

QUEENSLAND

Secretary—W. L. Stevens, VK4TB, Box 6382, G.P.O., Brisbane.

Meeting Night—Last Friday in each month at the Y.M.C.A. Rooms, Edward Street, Brisbane.

Divisional Sub-Editor—F. H. Shannon, VK4SN, Minden, via Rosewood.

SOUTH AUSTRALIA

Secretary—E. A. Barber, VK5MD, Box 1234K, G.P.O., Adelaide.

Meeting Night—Second Tuesday of each month at 17 Wymouth St., Adelaide.

Divisional Sub-Editor—W. W. Parsons, VK5PS, 453 Zephyrus, Henley Beach.

WESTERN AUSTRALIA

Secretary—W. E. Coxon, VK3AG, 7 Howard St., Perth.

Meeting Place—Padbury House, Cor. St. George's Ter. and King St., Perth.

Meeting Night—Watch the Monthly Bulletin.

Divisional Sub-Editor—George W. Ashley, VK6GA, 33 Mars Street, Carlisle, Western Australia.

TASMANIA

Secretary—R. D. O'May, VK7OM, Box 371B, G.P.O., Hobart.

Meeting Night—First Wednesday of each month at the Photographic Society's Rooms, 108 Liverpool St., Hobart.

Divisional Sub-Editor—Capt. E. J. Cruise, VK7EJ, Angelsea Barracks, Hobart.

Northern Correspondent: C. P. Wright, VK7LZ, 3 Knight St., Launceston.

FEDERAL CONVENTION

Federal Executive, on behalf of the Federal Council of the Wireless Institute of Australia, and having taken action in accordance with Part X of the Federal Constitution of the Wireless Institute of Australia (as amended) 1947, hereby gives notice that Part III, Section 9 of the said Constitution has been duly altered as follows:—

"Each representative of a Division on the Federal Council shall be elected annually during the period of sixty days immediately prior to the commencement of the Annual Federal Convention by the voting members of the respective Division."

Such amendment became effective on the 1st October, 1949.

F.I.A.T.S. CHARTS

Your Divisional Council and Federal Executive would be interested to know what value you as a transmitting Amateur, obtain from these Prediction Charts that have been appearing regularly for the last 13 months or so in "A.R." We believe they can serve a very useful function—do you? If so please let your Divisional Council have your comments.

20th FEDERAL CONVENTION

Once again, the time comes around for those motions you want included on the Agenda for discussion by Federal Council. The activities Calendar published on this page shows the date by which all motions should be in the hands of your Council. It was agreed by all at the last Convention that there were far too many items for General Business. This can be obtained by your immediate notification of your particular item—this will save a lot of time at the Convention in discussion on items which have not been considered by each Divisional Council. Send that item without delay.

AMATEUR RADIO CLUB OF INDIA

The above Club, which represents the Amateur fraternity of India, has applied for I.A.R.U. membership, and in doing so solicited the assistance of the W.I.A. in the form of a recommendation. We have asked the R.S.G.B. to sponsor their application. The Federal Executive, after due consideration of this proposal, has agreed to endorse in supporting their proposition for membership.

PRIZES FOR 1949 VK-ZL DX CONTEST

The following are the prizes for the 1949 DX Contest—Open CW: Pair 854s, donated by Philips Electrical Industries; Open Phone: Order to value of £5 for transformers etc. Red Time Equipment Pty. Ltd.; 28 Mc. C.W.: Order to value of £5 for Cylon Transmuting Condensers, donated

Page 19

COALFIELDS AND LAKES

Only news from Lakes this month comes from Goodford, where 2RU is checking his gear in readiness for this summer and working cross-band 144 to Sydney and Newcastle. 2AEZ going on 50 and is now putting up a beam. 2AMU also active on 50 and he managed to add 2D4AN and FQ8SN to his 28 Mc. list. At Toronto Jack Early is a reliable 50 contact. 2VU too is going on 50 with fine signal and new beam, also works 7 Mc. 2JZ not heard much, mainly on 38. 2TV on 28 and 144. 2ALR is a new Ham in Cosmocon, is not really set up yet, but made a few contacts on 28. 2PZ still not heard and 2MK seems to have given game away for the moment anyway. 2YO seems to be making hay on 28 Mc. and getting ideas for a new rotary.

2KZ active again consistently on 50, 28 and 144. 2EP also on same bands using a transceiver on 144, a new 3 over 3 beam going up on the band. 2ADT relaxing after the 50 Mc. contest, had a few days in bed with the flu, RX working all bands and reports conditions improving; heard VK6s on 50. 2YD going quietly on all bands and working a little DX on 14 Mc. and using a new two section 8JK on 14 Mc. with good results.

SOUTH COAST AND SOUTHERN

This month we see the combining of the South Coast and Tablelands and Southern Zones. Some months ago Noel Arnold, VK3QJ, relinquished the position of Z.O. Southern, due to pressure of business. As there was a lack of activity in the zone, it was decided to combine the two zones and they will now be known as per the heading. Zone Officer for the new zone is Roy Reynolds, VK3DQ, of Yass, of the old South Coast and Tablelands Zone.

2AJP been talking about frequency meters and YLA Jack runs 100 watts to 818 and has a new mike. 2OY QRL in garden, little time available is spent on 10. 2AIZ fantastically seeking a house and will make up for inactivity when the problem is solved. 2JQ on c.w. with hefty signal, heard working 2L on 40 phone. 2ALS has small sports car and is talking portable transmitters, has BC459A; fishing season coming up we should hear him from some remote spot. 2PI and 2GU Canberra based briefly. 2PI has small rig in kitchen, a handicap after meals? 2APF reports 2AMW is set up in his new location. 2ANW in NZ and 2AED in NZ. 2AV call 2VW has come to VK3 and has taken call out there.

2VH and 2AOX QRL re-building. 2AOX working a little DX between jobs. 2MT, 2ON, 2LA active on c.w. and phone. 2WF doing fine job on 40 c.w.

and phone, a new tube coming up in final. 2APF active on 20 with p.p. 807A. Kevin is a new Ham only been on 6 weeks. Congrats to 2PN on addition to the family—nice work. 2TC, 2TA, 2ARE no news, what about some OTs? 2BT, 2AMV, 2PN, 2YC, and 2DO were entertained by 2VH during holiday week-end. 2YC reckoned QSO, business slow, so reeled off few new ones for Hugh. 2JV was at 2AMV's shack when 2DO called. 2BT has his gear set up in good style, plenty for all occasions. Six metres biting the Forbes gang. In Albury, 2ANQ should be active soon and 2GD has lot of gear about but not working it. 2EU QRL home building, also building gear. Nil heard from 2AIB.

2OJ putting up 38 ft. mast for 10, uses 50 ft. aside antenna on 80 and 40. 2ANQ has built a new shack in back yard and should be on soon. Is busy servicing h.c.l. RX while his AR7 falls to pieces; has trouble mastering the Baltic tongues of his new Australian customers. 2AJ, 2QE still on air, but nothing else. 2BW very active on 6 metres, works consistently with 2PN in Tumut. 2ANT has not been on for a long time. Quarters cramped (try a garage a la 2EU, with snk). 2TH left Wagga for Hurstville. 2GE left for Moree but latest he is back in VK4. 2YW not heard post-war. 2AID heard well on forty day and night, now building a 6 metre converter. Many thanks to 2AJP, 2APF, 2EU and 2AID for sending notes along.

VICTORIA

TECHNICAL EQUIPMENT COMPETITION

Alf Harris, VK3CH of Birchcop, one of the real old-timers, has won the prize for the best piece of Technical Equipment submitted at the next Victorian State Convention.

A judging committee has been formed, and the rules will be published next month, so now is the time to start on that pet piece of equipment you have had in mind for so long.

CASTLEMAINE CONVENTION

On Sunday, 10th September, Castlemaine became the mecca of a large proportion of Victoria's Ham, yach, not only VK3, but they came from far off Ceyth, G land and VK9, to attend the Annual Convention of the Cess Valley Western Zone.

Proceedings commenced at 1200 hours when a vigorous labelling campaign was carried out by the President and Secretaries in the entrance of the Castlemaine Town Hall. Seventy-eight Hams and so forth signed the visitors' book, were duly tagged,

and passed on to the Mayoral Chambers where the boys were given a happy and informal welcome by Gordon and Mrs. Weyntin in their dual capacity of Mayor and Mayoress and VK3UL, 3QQ, at this stage, read out the weekly W.L.A. broadcast in a brighter and briefer style than usual; next along was lunch, preceded by a lively rag chew in the foyer, when the boys really got together and consumed gigantic quantities of something or other. Lunch was a problem solved. I think everybody's satisfaction. Sixty-four sat down in a room normally seating 48. 3WQ distinguished himself as a waiter par ex. Strange to say, the soup Charlie handed round all reached its QTH in good order.

During lunch, the prize for the lucky-door ticket was drawn, and resulted in the 813 going to Charlie Johnson. After a little magic in the shape of the 818 changing to pepper and salt, and back again it was duly handed over (who was Mandrake?).

Next item was the v.h.f. demonstration by Ken McTaggart 3RW, ably assisted by BEM, SDC and company who provided the outside contacts. Ken had an imposing array of 50, 144 and 576 Mc. gear and went to no end of trouble to explain and demonstrate the salient points of each piece of gear. For simplicity, the 576 Mc. transmitter, as per January "A.R.", was outstanding. On the actual transmitting side perhaps the most striking feature was the sharp directive feature displayed by the simple dipole on 144 Mc. Ken's able demonstration was greatly appreciated by those present, and should do much to stir interest in the v.h.f. bands in this part of the State.

Next item was the eagerly awaited judging for the best piece of home-built equipment. The boys were each given a ticket and after filing past the exhibits voted Ted Manford VK3EM the winner for his complete v.h.f. transmitter-receiver cum power supply, and Ray Fitzsimmons VK3FT into second place with an f.b. phone monitor, etc., covering from h.c. band through to 28 Mc. Both these chaps certainly earned their blankets and let's hope they are now snugly tucked in round their coats. Time was marching on with flying feet, so the Annual Meeting was the next item, minutes were read and accounts passed for payment.

Officers elected for the coming year were: President, 3GN; Vice-President, 3XU; Secretary and Treasurer, 3NV; Committee 3XC, 3IQ and 3KW. During the Annual Meeting our good friend Byron STA made another of his practical gestures to help in improving technical and operating ability in the zone by donating three prizes for the ensuing twelve months for:—

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	10	“	“	“	1½	Kc.	“	“
	100	“	“	“	2.7	Kc.	“	“
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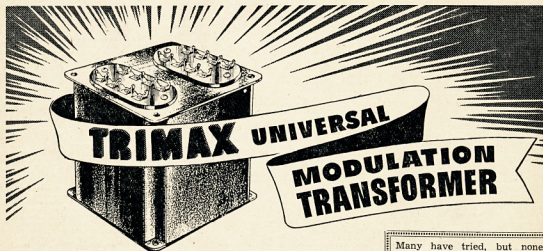
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The opinions expressed in these letters are the individual opinions of the writer, and do not necessarily coincide with those of the publishers.

FOR AND AGAINST

Editor "A.R.", Sir,
8 Pasadena St., Kogarah, N.S.W.

On the subject of open letters, also the "Old Man's" contributions, I wonder if my reactions will make any difference to the opinions of the members of the Amateur fraternity and readers of "Amateur Radio."

To me the tone of our journal suffers badly by the inclusion of the sentiments of one of two of the type addressed to VK2JP and the victims of the "Old Man's" critical pen.

It is true that some of the writers that there are two sides to a story, always. For example, in the case of VK2JP and his DX activity, quite a few of the boys have worked a "new one" through his good offices especially as some of J2P's DX friends often appear and remain on the band for a session as a result of his schedules. In regard to the YJ1A incident, as described by VK2BG (no remarks about third party traffic), this could happen to anyone. The fact that J2G evidently heard J2P does not mean that the reverse was also the case. I doubt whether he or any other station would have called if the affix "calling on asked" or something equivalent had been used, even assuming J2G was heard by J2P.

It is agreed that a lot of the practices denounced by the "Old Man" may not be desirable. However, some bring their own rewards. Long Qs for example, may be called for, and the station would be a DX station and will be passed over. An extra case mentioned by the "Old Man," that of VK2AGW breaking up the band, is a case of us taking liberties with friends. In the G land hook-up in the Sydney area, this practice is not frowned upon because of the keen desire for comparative reports and the limited time for which the band is open.

The wise words which tell of the good in the worst of us and conclude with the moral that it is better to be a good man than a bad one, might well be borne in mind. In the extreme case, I suggest "closed letters" if one feels that badly,

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the QTH may always be found in the call book. "Open letters," to my mind, are nearly as obnoxious as the "anonymous" variety.

—W. ROBERTSON, VK2US.

"THE OLD MAN"

21 Sutherland St., Lane Cove, N.S.W.

Editor "A.R.", Sir,
This bloke who calls himself the "Old Man" ought to be more careful about reading the regulations before he makes any contribution. Said statements, when incorrect, mislead many and in any case should not be published in "A.R." which, after all, is OUR magazine not just the OM's.

Thus, for the information of all and sundry, including said OM, I quote here certain portions of the P.M.G. Handbook. Hereafter, should you find space to publish in it in order that certain impressions may be corrected.

The OM, who apparently dislikes most phone men and those who operate in networks in particular, makes the statement that, "The regulations state very definitely that the call sign of the station transmitting and the call sign of the station being worked must be announced on each over."

The regulations state nothing of the sort. What they do state, and I quote here from page 16 of the P.M.G. Handbook, is as follows:

"134. The operator of an Amateur Station shall transmit the call sign of the station being worked and the call sign of the station being worked must be announced on each over."

The regulations state nothing of the sort. What they do state, and I quote here from page 16 of the P.M.G. Handbook, is as follows:

"134. The operator of an Amateur Station shall transmit the call sign of the station being worked and the call sign of the station being worked must be announced on each over."

The regulations state nothing of the sort. What they do state, and I quote here from page 16 of the P.M.G. Handbook, is as follows:

"134. The operator of an Amateur Station shall transmit the call sign of the station being worked and the call sign of the station being worked must be announced on each over."

Finally, might I suggest to the OM that if his column is to be of use (and it could be) he should refrain from allowing his own particular hates to creep, say, leap into prominence! Some of the things we read in his column are so childish. Take that "W" in his column, or "Incidentally," "Natter" which the OM thinks is the column of "A.R." and so on.

The two standards by which we must judge operating, or what is said over the air and in what manner, are: (1) P.M.G. Regulations, and (2) General Practice. The personal preferences of the OM don't enter into it. If the OM goes chasing bad signals and really poor operating and the like, we will be the first to point it out, but we will not waste valuable space by writing about the things that he doesn't like, and castigating folk because they don't happen to operate in the way he likes, then we'll turn round and chase him.

—JOHN MILLER, VK1ANF.

P.S.—If anybody finds a stray sense of humour kicking about, send it to the OM c/o "A.R." If it isn't his, he could still make good use of it.

[The interpretation of the regulations by VK2ANF are quite correct in the main, but I believe him. However, in due fairness to the OM I believe his references throughout refer to the person who puts into a QSO to the other station a message which is there and does not announce his call sign. In this case the OM's interpretation is correct—I have heard this done many times myself.—Editor.]

—W. ROBERTSON, VK2US.

P.O. Box 127, Geraldton, W.A.

Editor "A.R.", Sir,
Congratulations to "The Old Man" for his comments on home-made phonetic alphabets. It's time this rubbish was stamped out. The chaps who make up their own phonetic alphabet are a nuisance, and especially since the majority of the "rare ones" are in countries where English is not the national language. A good deal of time and thought went into the preparation of the phonetic system which was eventually adopted by the Allied Service and which, as the "Old Man" points out, now appears in the P.M.G. Handbook.

If these "specialists" in phonetics as applied to communication work think they know better than the research workers who developed the "Able, Baker, Charlie" set-up, their error is only matched by their colossal ego.

R. H. ATKINSON, VK6WZ.

FIFTY Mc. AND ABOVE

(Continued from Page 17)

3ANW but due to the antenna not loading the transmitter properly was unable to make a contact.

Tests which have been carried out during the month have shown it necessary to have a high gain beam for work on this band if anything other than short haul line of sight contacts are contemplated. The only new antenna path to be opened up was the one between 3QO in Ivanhoe and 3DA in Caulfield, a distance of about 61 miles over high intervening hills. So far only cross band QSO has been made, with 3QO on 576 and 3DA replying on 3 Mc. The path between 3NW and 3XA is another that should be broken down through this appears as the distance is only about 4 miles and practically line of sight. Tests between 3NW, 3XA and 3DA have so far failed to bring about any results.

Acknowledgement to VKs 2AH, 2IM, 6FC and 7DM for the above material.

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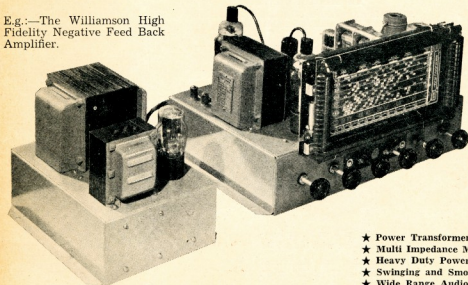
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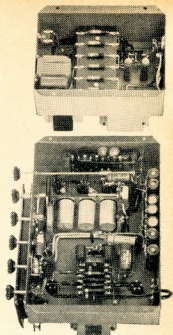
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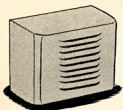
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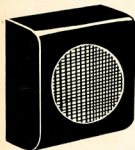
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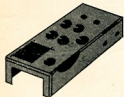
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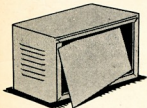
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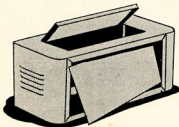
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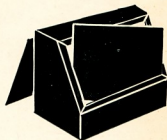
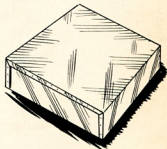
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